Synopsis

Effect of Stretching Exercise On Primary Dysmenorrhea Among Adolescent Girls

Submitted by

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INTRODUCTION

Dysmenorrhea, a painful menstrual cycle that hinders teenage girls from engaging in their regular daily activities and lowers their productivity and quality of life, can also damage their academic performance (Kas et al., 2020).The words dysmenorrhea, which means difficult, unpleasant, or abnormal, meno, which means month, and rrhea, which means flow, are taken from the Greek. With an 87.5% incidence in Egypt, it is one of the most common gynecological complaints (Barati. et al., 2021).Dysmenorrhea is typically split into two groups: Primary and Secondary. In the absence of any pelvic organs, primary dysmenorrhea is a painful menstrual cycle **(Hashemi et al., 2022).** The first day of menstruation marks the start of primary dysmenorrhea (PD), which peaks within 24 hours. It starts out bleeding lightly and gets better as the flow gets more established. The suprapubic region is often the site of pain, which radiates to the inner and outer sides of the thighs **(Momma et al., 2022).**

Depending on whether there is a pathology present or not, dysmenorrhea is classified as primary or secondary. Only ovulatory cycles are affected by primary dysmenorrhea, which has no underlying pathology or organic cause and normally appears between 6 and 12 months after menarche. Adolescent girls are less likely to experience secondary dysmenorrhea, which is typically caused by pelvic disease **(Patel et al., 2019).** Although dysmenorrhea frequently occurs as a side effect of several reproductive illnesses, it is also regarded by most females as the main sickness. Even though primary dysmenorrhea has a fair prognosis and is somewhat common in young women, it is nonetheless linked to poor quality of life **(Bernardi et al., 2017).**

Prostaglandin levels are increased in primary dysmenorrhea, which causes pain and possible side effects. These prostaglandins induce the uterine muscles to contract, which hurts and reduces blood flow and oxygen to the uterus. Females with primary dysmenorrhea had particularly high levels of prostaglandin F2 during the first two days of menstruation **(Kaur, et al., 2018).** The use of complementary therapy as an adjuvant treatment may enhance pain control and reduce immediate post operative discomfort. Transcutaneous nerve stimulation, the use of hot or cold compresses, exercises, positioning, massage, distraction, hypnosis, and relaxation are a few examples of non- pharmacologic pain management techniques **(Oraon et al., 2019).**

Non-pharmacological management is safer because it does not cause side effects like

drugs . One effort to eliminate or reduce pain in dysmenorrhea is to exercise where this action does not cause side effects because it uses the body's physiology. Exercises during dysmenorrhea increase muscle strength, endurance, and flexibility (dysmenorrhea) (9). Purnamayanti & Utarini (2018). Exercise can increase oxygenation and stimulate the flow of lymphatic drainage to increase muscle flexibility and maintain and increase the elasticity and flexibility of body tissues. If the exercise is carried out premenstrual, it can reduce the size of a adolescent menstrual pain when she has dysmenorrhea. Exercise or physical exercise can stimulate the release of endorphins in the brain. The spinal cord becomes a natural sedative because it can make you calm and comfortable and reduce pain during menstruation.Increased endorphins can have the effect of reducing pain, improving memory, increasing appetite, increasing sex, blood pressure, and breathing; exercise is effective in reducing dysmenorrhea pain.

Exercise promotes healthy blood flow to the muscles and releases endorphins, the body's natural pain killer and improve the health outcomes for female young adolescent girls with Primary dysmenorrhea. Stretching exercise is known to raise endorphin**s** – chemicals (hormones) levels in the brain and released during pleasurable activities such as exercise, massage and eating. Physical exercise by stretching the muscles especially stomach for 20-30 minutes and is specifically designed to improve muscle strength, flexibility, endurance, reduce muscle tension, improve blood circulation, reduce anxiety, reduce the risk of injury, improve the sense of well-being and it reduces pain in the dysmenorrhea period **(Anderson, 2021).** This study analyzed the effectiveness of exercise in reducing dysmenorrhea pain.

NEED FOR THE STUDY

- Studies from various parts of India reported the prevalence of dysmenorrhea ranges between 40 to 87.8%.
- Many parts of the developing countries, a culture of silence surrounds the topic of menstruation and related issues; as a result many young girls lack appropriate and sufficient information regarding dysmenorrhea and exercise (Esike et al., 2018).
- One of the appropriate non pharmacological treatment of dysmenorrhea for adolescent age is physical exercise. In performing exercise the body will produce endorphins that are produced by the brain and spinal nerves. Endorphin hormone serves as a natural sedative, thus giving rise to a sense of relaxing and comfort (Arifin., 2020).
- Exercise proved to increase the levels of endorphin four to five times in the blood.

More exercise, the higher the level of endorphin. Increasing endorphins proved to be closely related to the decline in pain, increase of memory, improve the appetite, sexual ability and breathing. Abdominal stretching exercise can be used to reduce dysmenorrhea during menstruation (Thermacare,2022).

❖ Stretching exercise are important to reduce Physiological and Psychological symptoms of primary dysmenorrhea such as lack of concentration, behavioral changes, breast pain and anxiety also improves flexibility, restore mobility, relax uterine muscles and maintain good abdominal tone. All of these are acute effects of stretching exercises. Long term effects of continuous stretching exercises are increase in range of joints and increase in length of muscles. (Kiranmayi et al., 2022).

OBJECTIVES

Primary Objective:

- ❖ To assess the effectiveness of stretching exercise on Primary Dysmenorrrhea among selected adolescent girls.

Secondary Objectives: To

- ❖ elicit information on prevalence of Primary Dysmenorrrhea among selected adolescent girls in the selected settings in a specified period of time.
- ❖ find out the dysmenorrheal symptoms experienced by adolescent girls during Primary Dysmenorrhea.
- ❖ conduct intervention on stretching exercises among adolescent girls
- ❖ evaluate the pain intensity by using Numerical pain scale before and after the intervention for six months during Primary Dysmenorrhea.
- ❖ evaluate the effect of pre and post outcome of stretching exercises on various symptoms for six months during Primary Dysmenorrhea.
- ❖ associate the level of pain and dysmenorrheal symptoms during Primary Dysmenorrhea with selected menstrual variables.

METHODOLOGY

Research Design : Quasi experimental study (Intervention and no randomization)

Study design : One group pretest posttest design.

Participants : University students of 18 - 20 years of age

Population : 1077

Sample : 238

Sampling Technique : Purposive sampling method based on selection criteria.

Settings of the study : The study conducted in selected University. (Avinashilingam Institute for Home Science and Higher Education for Women,main campus, Coimbatore)

Schematic representation of the methodology (Research Process)

RESEARCH APPROACH

Quantitative Approach

RESEARCH DESIGN

Pre experimental one group pretest post test Design

TARGET POPULATION

University adolescent girls (IUG) with Primary Dysmenorrhea (18-20 years)

ACCESSIBLE POPULATION

Selected University adolescent girls (18-20yrs) with primary dysmenorrhea studying in selected University Coimbatore (Avinashilingam Institute for Home Science and Higher Education for Women)

N-1077

Screening for primary dysmenorrhea by Menstrual profile Questionnaire for assessment of dysmenorrhea symptoms and Numerical pain Scale

N-636

SAMPLE

Adolescent girls (18-20yrs) with primary dysmenorrhea studying in selected University who met the inclusion and exclusion criteria

N-238 (among 10 subjects selected for case study)

SAMPLING TECHNIQUE

Purposive Sampling

Pretest by using menstrual profile, questionnaire for assessment of dysmenorrhea symptoms, Numerical pain Scale for six months (2^{nd},4^{th},6^{th} months)

INTERVENTION

Stretching exercise (2 times per day for 3 days per week for six months)

POST TEST

Posttest by using questionnaire for assessment of dysmenorrhea symptoms, numerical pain Scale in each cycle for six months(2^{nd},4^{th},6^{th} months)

Case study

(10 subjects from 238 qualitative in-depth observation)

ANALYSIS AND INTERPRETATION

DISSEMINATION OF RESULT

DESCRIPTION OF TOOL

Instruments and tools used for data collection: comprises four sections

Section A: Demographic variables

Demographic variables of adolescent girlr includes the age, Religion, type of family , educational status of mother, educational status of mother, family history of dysmenorrhea, dietary pattern.

Section B: Menstrual profile

The Menstrual profile of girls with dysmenorrhoea tool consists of 11 questions to know about menstrual history, which include age at menarche, duration of menstrual cycle, number of days of menstruation, nature of pain, onset of dysmenorrhoea, days of menstruation with severe pain, pattern of rest, date of last menstrual period, Height,weight ,BMI.

Section C: Questionnaire for assessment of dysmenorrhoea symptoms

The Questionnaire for assessment of dysmenorrhoea symptoms consists of 33 questions to know the degree of dysmenorrhea which includes effect of dysmenorrhoea on daily activities, academic performance and physiological symptoms consists of (Exhaust, lethargic, tired, Painful cramps in lower abdomen, Back ache, radiating pain to thighs and lower back, Nausea, Vomiting, Changes in bowel and bladder pattern, Fainting, Painful breast, abdominal bloating, Joint pain, Urinary frequency, Dizziness), and Psychological symptoms which consists of menstrual migraines, depression, irritability/easily agitated, Rapid mood changes, poor concentration, anxiety, insomnia, hypersomnia, over eating/food craving, Tension/nervousness.

Scoring and interpretation only for Section-C, this section consists of 33 questions, the score prescribed for each questions was 4, total score was 108 it has been interpreted as following Score 1-33, No dysmenorrhoea Score 34-66, Mild dysmenorrhoea Score 67-99, Moderate dysmenorrhoea, Score 100- 132 Severe dysmenorrhoea.

Description for the assessment of degree of dysmenorrhoea symptoms.
Not at all – Not Present/Absent ,Mildly - Menstrual discomfort may be present only for few hours/present for the classes.E.g.: 2 – 3hrs,Moderately - Menstrual discomfort presents throughout the menstruation/attending the classes for about or 4 -6 hrs, Severely - Menstrual discomfort presents throughout the menstruation/attending the classes more than 7 hrs.

Section D: Numerical pain scale (Mankoski)
Assess the severity of menstrual Pain by using numerical pain rating scale. No pain – 0, mild pain 1-3, moderate pain 4-7, severe pain 8-10.

HYPOTHESIS

H0 : There will not be significant reduction in the severity of pain during primary dysmenorrhoea after stretching exercises.
H1 : There will be significant reduction in the severity of pain during primary dysmenorrhea after stretching exercises.
H0 : There will not be significant reduction in menstrual symptoms that occurs during primary dysmenorrhoea after stretching exercises.
H2 : There will be significant reduction in menstrual symptoms that occurs during primary dysmenorrhea after stretching exercises.
H0 : There will not be significant association between pain and menstrual symptoms of primary dysmenorrhoea with selected menstrual variables.
H3 : There will be significant association between pain and menstrual symptoms of primary dysmenorrhoea with selected menstrual variables.

CONCEPTUAL FRAMEWORK

Modified Wiedenbach's helping art of clinical nursing theory:

The conceptual framework for this study was derived from modified Wiedenbach's helping art of clinical nursing theory (Fawcett, 1997). This study was based on the concept that stretching exercise helps to reduction of primary dysmenorrhoea among college students (late adolescents). The researcher adopted the modified Wiedenbach's helping art of clinical nursing theory as a base for developing the conceptual framework. Ernestine Wiedenbach's proposed a prescriptive theory for nursing, which is described as conceiving of a decide solution and the ways to attain it. It directs action towards an explicit goal. This theory has three factors.

1. Central purpose
2. Prescription
3. Realities

Central purpose: it refers to what the researcher wants to accomplish. It is the overall goal towards which a researcher strives. In this study the main central purpose is to assess the effectiveness of stretching exercise on primary dysmenorrhoea among adolescent girls.

Realities: it refers to the physical, physiological, emotional and spiritual factors that involves in researcher actions. In this theory there are four realities. They are as follows:

Frame work: It refers to the place in which it is practiced. Here it refers to the study was conducted Avinashilingam Institute for Homescience and Higher Education for Women.

Agent: One who directs all action towards the goal and has capacities, capabilities, commitment and competence to provide care. In this study agent is the researcher who directs all the action towards the goal.

Recipient: One who is vulnerable and dependent and receive all attention. Here the entire college students those who are having primary dysmenorrhoea are the recipient of the stretching exercise.

Means: This refers to the activities or devices used to achieve the goal. In this study it refersto administration of stretching exercises such as warm up, stretching and strengthening exercises, step up down, and cool down to the college students(late adolescent girls) having primary dysmenorrhoea.

Goals: It refers to the desired outcome of the action. Reduction in the degree of primary dysmenorrhoea symptoms was considered as the goal of the study.

Wiedenbach's practices consists of identification, ministration and validation.

PHASE-I

Data collection

⇩

Selection of the research area
(Avinashilingam Institute for Home Science and Higher Education for Women)

⇩

Selection of the samples (1077)

⇩

Framing the research tool (Framed and Validity done)

⇩

Conducted survey (686 responses received)
Selected 238 subjects as per inclusion and exclusion criteria and consent

⇩

Case study performed for 10 subjects from 238 subjects

⇩

Analysis, presentation and publication of the data

PHASE ll

Exercise Intervention to alleviate the Primary Dysmenorrhea symptoms and pain intensity

⇩

Intervention performed on selected adolescent girls with Primary Dysmenorrhea (final 238 students)
Case study – 10 subjects were selected from 238 samples)

⇩

Dietary education given on reducing primary Dysmenorrhea

⇩

Monitored effectiveness on reducing pain intensity for six months

⇩

Monitored effectiveness on reducing the menstrual symptoms for six months

⇩

Case study samples
(Indepth observation)

PHASE lll

EVALUATION

Effect of practicing the home based stretching exercise on reducing the intensity of the menstrual pain and menstrual symptoms assessed for six months

⇩

Pretest and post test were evaluated in each cycle for about six months for assessing the intervention in reducing menstrual symptoms, pain intensity and pain duration

⇩

Case study ten subjects were observed individually for another six months and follow up done with recording

Exercise intervention

Methods

The study participants aged 18-20 years (I UG students) with primary dysmenorrhea will be selected from Avinashilingam institute main campus after getting consent and volunteers for the study. In the study group, the subjects will be requested to complete an active stretching exercise for six months (3 days per week, 2 times per day, 30 minutes each time) at home. In the pre-test, all of subjects will be examined for pain intensity (10-point scale), pain duration, and the menstrual symptoms in 2 continuous menstruation cycles. The

post test were examined in every two months after following intervention in periodical interval starts from third day of menstruation till first day of menstruation of next cycle for six months.

Therapeutic benefits of stretching exercise and Dysmenorrhea

- Safe & Effective
- Nausea and vomiting, other dysmenorrhea symptoms are decreases.
- Helps to reduce mood swings on premenstrual phase
- Heart pumps effectively
- Tones up the elasticity and strengthen the spine& pelvic muscle
- The diaphragm is mode elastic and strong, and can stretch to accommodate the uterus easily.
- Healthy blood, oxygenation and other fluids are circulated properly to the uterus.
- Exercise stabilizes the nervous system.
- Pain in joints and backache decreases.
- Exercise helps to stimulate the appetite and bowel action, hence constipation decreased.
- Raising the level of energy and also helping in maintenance of the metabolism.
- Obesity is controlled.
- Maintain the hormone balance

Proper Stretching Exercise to help reproductive organs and pelvis to ensure easy menstruation and to ensure optimum supply of blood and nutrients to the uterus. Adolescent girls may practice the recommended exercise for 30 minutes on each day.

Stretching Exercise Techniques-Guidelines for stretching exercise

- Have good ventilation in the place
- Wear loose clothing ,since tight clothes will restrict the circulation to some areas of the body
- Do exercise in the early morning or the early evening before the evening meal
- Never practice on a full stomach
- Exercise has to be done slowly ,with no strain
- Breathe slowly and deeply, when inhaling, abdomen has to bulge, when exhaling, let it return.
- Exercise postures have to be Synchronize with breathing
- Exercise shouldnot be done during menstrual cycle for 24 to 72 hours.
- When releasing the exercise postures , do it gradually and in the reverse order.
- Hold the postures comfortably 5 seconds and relax 25 seconds.

Steps In Stretching Exercise

- Warm-up phase helps our body to adjust slowly from rest to exercise. Mild exercises are given for 5 minute with 4 repetitions.
- Conditioning phase benefits of exercise are gained and calories are burned. In this phase 6 exercises are given for 20 minutes with 5 repetitions.
- Cool-down phase helps to slowly decrease the intensity of our activity. Mild exercises can be carried out for 5 minutes with 2 repetitions.

Warm-up Exercise

Step: I

- Lie flat on your back.
- Bend both knees and place the feet flat on the ground.

- Now roll your bent knees to one side, roll them as far as they will easily go at thesame time, carry both your arms and your head to the other side too.
- You are now twisting your body and stretching one set of oblique trunk muscles.
- Then bring your knees back to midline, resting your heel on the ground and yourarms by your sides.
- Hold this position for 5 seconds and relax 25 seconds.
- Repeat for 4 times(both side)

Conditioning Exercise:

Step: II (Stretching exercise-1 -Hamstring stretch in standing position)

- To stand behind a chair.
- Bend trunk forward from the hip joint.
- Shoulders and back were positioned on a straight line .
- The upper body was placed parallel to the floor.
- Hold this position for 5seconds and relax 25 seconds.
- Repeat for 3 times.

Step: III (Stretching exercise-2-Heel off stretching exercise)

- To stand 10-20 cm behind a chair,
- Then raise 1heel off the floor.
- Repeated the exercise with the other heel alternatively.
- Hold this position for 5 seconds and relax 25 seconds.
- Repeat for 3 times

Step: IV(Stretching exercise-3-Squatting stretching exercise)

- To spread third feet shoulder width
- Place trunk and hands in forward stretching mode,
- Completely bend her knees
- Maintain a squatting position
- Hold this position for 5 seconds and relax 25 seconds.
- Repeat for 3 times

Step: V(Stretching exercise-4-Supported Half-Moon stretching)

- to spread her feet wider than shoulder width.
- to bend and touch left ankle with her right hand
- putting her left hand in a stretched position above head,
- the head was in the middle head was turned and looked for her left hand .
- repeat for the opposite foot with the same method.
- Hold this position for 5 seconds and relax 25seconds.
- Repeat for 3 times

Step: VI (Stretching exercise-5- Kick up hamstring stretch or Double knee to chest)

- to lie down in the supine position
- the shoulders, back, and feet were kept on the floor.
- the knees was bent with the help of her hands and reached to chin
- Hold this position for 5 seconds and relax 25 seconds.
- Repeat for 3 times

Step: VII (Stretching exercise-6- Wall side stretching)

- To stand against a wall and put her hands behind
- Head and elbows pointed forward in the direction of the eyes
- bending the vertebral column,

- abdominal muscle wall was contracted for 10 seconds
- Hold this position for 5 seconds and relax 25 seconds.
- Repeat for 3 times

Cool down Exercise

Step: VIII

- Mentally scan your body for any residual tension.
- If a particular area remains tense, repeat one or two tense-relax cycles for that group of muscles.
- Now imagine a wave of relaxation slowly spreading throughout your body,
- Starting at your head and gradually penetrating every muscle group all the way down to your toes.
- Take a deep breath
- As you exhale, imagine that tension throughout your body begins to flow away.

RESULTS AND DISCUSSION

- In this study, majority 63 %of the subjects belong to 18 years of age, followed by 29 % are 19 years and the remaining 8 per cent are 20 years. It is clearly understood that major subjects are at lower age. A vast majority 90.8 % of the subjects are Hindus, a very few of 5.9 % are Muslims and 3.4% are Christians.More than one-third of the subjects 77.7% are from Nuclear families and the remaining 22.3 % are from Joint families.More than $1/4^{th}$ of the respondents father's 26.5 % had their secondary education where as 28.6 % of respondents mother's had their higher secondary level of Education. A considerable amount of subjects fathers had their higher secondary and undergraduate level of education with 22.7 and 22.3 per cent respectively,majority 78.2% does not have any family history of dysmenorrhoea.Among the total subjects $3/4^{th}$ of the respondents about 76.1% are non-vegetarians and the remaining are vegetarians.It is understood that most of the subjects about 96.6% not perform exercises in their daily routine.A vast majority of 98.7 % were not prescribed any medicine for dysmenorrhea.Most of the subjects comprising of 49.6 % attain their menarche between 12-13 years of age followed by 30.3 % attain menarche at14-15 years.It is clear that 45.4% had their menstrual cycle at the interval of 28-30 days followed by 31 % had their cycle at 26-28 days interval.The findings reveal that exactly 45.8% is having their menstrual period for 3-4 and 5-6 days.

  Majority 46.6% of the subjects reported that they had dysmenorrhea from their first menarche onwards followed by 18.5% reported that they had dysmenorrhea after two or more years.It was also understood from the figure that majority 65.5% of the subjects face severe pain on the first day of their menstruation and it was observed that

the pain subsides on the following days. Nearly 3/4th of the subjects report that they take rest during dysmenorrhea and in which 47.1% state that they take rest for less than 6 hours.

In analysing, the intake of meals it was understood that majority subjects will not skip their meals due to menstruation but still a considerable amount of respondents comprising 81.5% skip their meals in which majority skip their breakfast, followed by lunch and dinner.The BMI calculation was done by measuring the height and weight of the subjects and by using the formula BMI was calculated. It was identified from the results that more than half of the girls 52.5% had a BMI value of 18.5 - 24.9 depicting a healthy body mass followed by 31 % had thin body mass and 16.4% had > 25. BMI value stating that they are overweight. About 42% affected by painful cramps in lower abdomen. About 77.3%was affected by Hypersomnia. Majority 46% of subjects were affected by severe pain.

Severity of pain after stretching exercise (2nd,4th and 6 th month)

The stretching exercises were given for the subjects from the 5th day of menstruation and continued for over a period of six menstrual periods and the results were examined based on the severity of the pain with an interval of two months. The initial pain percentage given by the subjects were classified, It shows a considerable increase with the status of relieving from pain after periodical exercises followed by the respondents. In the first phase of getting training for two months the severity of pain has a minimal reduction and the subjects reporting no pain had a considerable increase from 12 to 21 per cent with a mean difference of 9 percentage and hence the training of stretching exercise was continued for the next two months and results were analyzed. It was found that there is again a higher rate of improvement showing that the mean difference after 4 months is 14 depicting no pain and -15 for severe pain. The training was continued for the next 2 months and results shows that there is again a higher rate of improvement showing that the mean difference after 6 months is 12 depicting no pain and -12 for severe pain.

Comparison of pain control after exercise with interval of 2 months, 4 months and 6 months

The subjects on the severity of pain with respect to stretching exercises for over a period of 6 months with periodical interval. The overall mean difference shows that 35 per cent of the subjects has developed themselves during menstruation for the stage of no pain from the rate of severe and moderate pain whereas 23 per cent reported that

after exercise they could feel only mild pain. The pain severity of moderate and severe pain has shown a considerable negative impact after the practice of exercise.

The t-test shows the difference between the severity of pain among the subjects and it shows that the pain severity has been reduced after the training program and there exist a significant difference after the training program was the finding made out of this subjects Hence the null hypothesis stating that there will not be a significant reduction in the severity of pain during dysmenorrhea after stretching exercises is rejected and alternate hypothesis is accepted. The t-test shows the difference between the physiological symptoms among the subjects and it shows that physiological symptoms has been reduced after the stretching exercise and there exist a significant difference after the training program was the finding made out of this respondents.

Hence the null hypothesis stating that there will not be a significant reduction in the physiological symptoms that occurs during primary dysmenorrhea after stretching exercises is rejected and alternate hypothesis is accepted.The t-test shows the difference between the psychological symptoms among the subjects and it shows that psychological symptoms has been reduced after the stretching exercise and there exist a significant difference after the training program was the finding made out of this subjects.Hence the null hypothesis stating that there will not be a significant reduction in the psychological symptoms that occurs during primary dysmenorrhea after stretching exercises is rejected and alternate hypothesis is accepted.

Association between day of menstruation with severe pain and associated Physiological and Psychological symptoms

In this study,it shows that the calculated value of chi square is greater than the tabulated value of chi square at the 5% level of significance.There is an association between the day of menstruation with severe pain and changes in bowel pattern.In this study, it shows that the calculated value of chi square is lesser than the tabulated value of chi square at the 5% level of significance. Therefore there is no association between the day of menstruation with severe pain and any Psychological Symptoms.All symptoms has been reduced consistently after intervention.Karl Pearson's Correlation analysis was used to examine the relationship between the factors of demographic profile and menstrual profile towards the severity of pain. It was found that there exist a significant and positive relationship exist between Dietary Pattern, Body mass index,

physiological and psychological symptoms with the severity of pain of the respondents.It was found that there exist a significant and positive relationship exist between performing exercise, number of days of menstruation, adequate rest during dysmenorrhea, onset of dysmenorrhea and day of menstruation with severe pain towards physiological symptoms of the subjects.It was found that there exist a significant and positive relationship exist between age, dietary pattern, performing exercise, age at menarche, adequate rest during dysmenorrhea and Body mass index towards physiological symptoms of the subjects

Case studies are conducted to collect detailed descriptions of the respondents on the practices of stretching exercises and its impact on the primary dysmenorrhea in a detailed manner. The case study was conducted among 10 subjects from the main study samples and is reported below along with the t-test report carried out from the case study sample respondents. About 10 subjects were selected among 238 subjects as per subjects interest to participate and to continue the intervention. After six months of main intervention and continued follow up with In-depth observation. In-depth observation done after class hours through book recording. Advised to proceed with intervention. Nutrition education and counselling were given.

SUMMARY

Among 1077 students, 238 were diagnosed to have moderate to severe symptoms and pain intensity score were above 4 as per NPS. It shows the prevalence rate of Primary dysmenorrhea for this study is 41 %.Dysmenorrheal symptoms such as Physiological and Psychological symptoms were significantly reduced and pain intensity also reduced after exercise intervention.The reliability tests are found at accepted levels, wherein the construction of tools of the dependent variables have showed maximum reliability.Statistical association was identified through chi square test which proved the homogeneity of the groups and there were comparable.A significant improvement in menstruation characteristics was found in experimental group in case studies with non-significant improvements in the control group.The study result shown that, muscle Stretching exercises are the effective, simple, non-medicinal measure to reduce the pain and Discomfort during primary dysmenorrhea in young college going students.Exercising stimulates the release of endorphins provides relaxation, stress relief and improved blood flow can reduce the severity and duration of dysmenorrhea.

CONCLUSION

Selective stretching exercises were found to be effective in the level of dysmenorrhea among adolescent girls. Exercise today is an important part of normal life of many adolescent girls. It is proved thing that exercise can make many health benefits for girls who exercise regularly. Like exercise improves cardiovascular status, increase bone mineral content, decrease stress and premenstrual symptoms. Moreover, the results suggests that active stretching exercises reduce the dysmenorrhoea severity and the impact of pain on working ability, as well as improve systemic symptoms in adolescent girls with primary dysmenorrhoea.The results presented in the current study may facilitate improvements in the growing evidence that promotes practising active stretching exercises, either supervised or in a home-based program as a safe non-pharmacological alternative for pain management in primary dysmenorrhoea. It is also proven that pain level is high on first day of menstruation than second and third. Proposed that the increase in the blood flow and metabolism of the uterus during exercise may be effective in the reduction of dysmenorrheal symptoms. Long term effects of continuous stretching exercises are increase in range of joints and increase in length of muscles. The natural method of pain reduction is acceptable and accessible to everyone in the world.

JOURNAL PUBLICATIONS

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